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PERCUTANEOUS TRANSCATHETER AORTIC VALVE CLOSURE SUCCESSFULLY TREATS LEFT VENTRICULAR ASSIST DEVICE ASSOCIATED AORTIC INSUFFICIENCY

i2 Poster Contributions
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Background: The increased use of continuous-flow left ventricular assist devices (LVAD) in advanced heart failure has led to marked changes in the management of this condition. However, secondary aortic insufficiency (AI) can become a significant complication. This study reports a percutaneous, transcatheter therapy to treat AI.

Methods: 5 patients with continuous-flow LVADs and severe post-LVAD AI underwent percutaneous transcatheter AV closure between September to October 2011 at a single quaternary care academic medical center. All patients had LVAD inserted as destination therapy. 4 were male, the average age was 52 and 40% had an LVAD placed for ischemic cardiomyopathy. LVAD parameters, hemodynamics, and echocardiographic measurements were obtained before and after AV closure.

Results: All patients underwent successful closure with the Amplatzer Cribiform device via a femoral approach. In all patients, AI was reduced from severe (4+) to trivial. Pulmonary capillary wedge pressure (PCWP) was significantly reduced from a mean of 32 mmHg to 27 mmHg after closure (p=0.005). There was no change in mitral or tricuspid regurgitation, LV function, or LVAD power or pulsatility index.

Conclusions: Percutaneous transcatheter closure of the aortic valve effectively treats LVAD associated AI without increasing TR and reduces PCWP. This procedure should be considered an effective treatment alternative to open surgical repair of LVAD associated AI. Further data is needed to assess long-term results.